

## Claims

### What is claimed:

1. A network device having router functionality, comprising:  
a processor;  
memory in communication with the processor; and  
program instructions stored in memory and executable on the processor  
to designate a fail-over virtual router interface for a first physical router on a  
second physical router based on address information obtained via  
communication between the first physical router and the second physical router.
2. The network device of claim 1, further including program instructions  
which execute to assign an IP address for the fail-over virtual router interface of  
the second physical router.
3. The network device of claim 1, wherein the network device is a  
management station.
4. The network device of claim 1, wherein the network device is a network  
switch.
5. The network device of claim 1, wherein the network device is a network  
hub.
6. The network device of claim 1, further including program instructions  
which execute to communicate an IP address and domain identifier between the  
first physical router and the second physical router.
7. A network management system, comprising:  
a first physical router;  
a second physical router including:  
a processor;

memory in communication with the processor;  
means for obtaining address information from the first physical router and communicating the address information to the second physical router; and  
means for designating a fail-over virtual router interface on the second physical router based on address information obtained from the first physical router.

8. The system of claim 7, wherein the means for obtaining address information includes program instructions which execute in the first physical router to transfer address information to the second physical router.
9. The system of claim 7, wherein the means for obtaining address information includes program instructions which execute in the second physical router to receive address information from the first physical router.
10. The system of claim 7, wherein the means for designating a fail-over virtual router interface includes program instructions stored in memory and executable on the processor.
11. A method of setting up router redundancy between a first and a second physical router, comprising:
  - executing program instructions to communicate, between the first physical router and the second physical router, address information assigned to the first physical router; and
  - designating a fail-over virtual router interface for the first physical router on the second physical router based on the address information.
12. The method of claim 11, further including assigning address information to the virtual router interface based on the address information assigned to the first physical router.

13. The method of claim 12, further including assigning a virtual IP address to the virtual router interface based on the address information assigned to the first physical router.

14. The method of claim 12, further including assigning a mask length to the virtual router interface based on the address information assigned to the first physical router.

15. The method of claim 12, further including assigning a router identifier to the virtual router interface based on the address information assigned to the first physical router.

16. The method of claim 11, wherein the method further includes:  
assigning address information to the first physical router;  
designating a domain of the first physical router;  
assigning a router identifier to the first physical router;  
setting up a virtual router interface on the first physical router;  
executing program instructions to communicate, between the first physical router and the second physical router, address information assigned to the second physical router; and  
designating a fail-over virtual router interface for the second physical router on the first physical router based on the address information assigned to the second physical router.

17. The method of claim 16, further including assigning an IP address and a mask length to each physical router.

18. A method of setting up router redundancy between a first and a second physical router, comprising:  
assigning an IP address to the first physical router;  
designating a domain of the first physical router; and  
auto-configuring address information for a virtual router on the second physical router based on the IP address and domain of the first physical router by

executing program instructions to communicate between the first and second physical routers.

19. The method of claim 18, wherein the method further includes:  
assigning an IP address to the second physical router;  
designating a domain of the second physical router;  
assigning a router identifier to the second physical router;  
setting up a virtual router interface on the first physical router; and  
auto-configuring address information for a virtual router on the first physical router based on the IP address and domain of the second physical router by executing program instructions to communicate between the first and second physical routers.

20. The method of claim 18, further including communicating information between the first physical router and the second physical router to obtain a router identifier assigned to the first physical router.

21. The method of claim 20, further including designating a router identifier of the second physical router based upon the router identifier obtained from the first physical router.

22. A computer readable medium having a program to cause a device to perform a method, comprising:  
executing program instructions to communicate, between a first physical router and a second physical router, address information assigned to the first physical router; and  
designating a fail-over virtual router interface for the first physical router on the second physical router based on the address information.

23. The computer readable medium of claim 22, further including assigning a first IP address for a first local area network to a first physical router and assigning a second IP address for a second local area network to a second physical router.

24. The computer readable medium of claim 23, further including designating a fail-over virtual router for the first IP address and designating a fail-over virtual router for the second IP address.

25. The computer readable medium of claim 22, further including assigning a first IP address for a first local area network and assigning a second IP address for a second local area network to a first physical router.

26. The computer readable medium of claim 22, further including communicating between the first and second physical router using a layer-2 packet.